

MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

The DOT-AGC Joint Bridge Design Subcommittee met on February 19th, 2002. Those in attendance were:

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| Greg Perfetti | State Bridge Design Engineer (Co-Chairman) |
| Ron Hancock | State Bridge Construction Engineer |
| Mark Lively | Crowder Construction Co. |
| Bryan Long | Dane Construction |
| Kevin Burns | R. E. Burns & Sons Co. |
| Richard Holshouser | Sanford Contractors, Inc. |
| Tom Koch | Structure Design Project Engineer (Secretary) |
| Paul Lambert | Structure Design Project Engineer |
| Victor Chao | Structure Design Engineer |
| Allen Raynor | Assistant State Bridge Design Engineer |
| Gichuru Muchane | Structure Design Engineer |

The following items of business were discussed:

1. The minutes of the December 11, 2002 meeting were accepted.
2. *Overhang Falsework Standardization*

Mr. Koch distributed a set of preliminary design charts that would provide approved overhang falsework bracket spacings for various screed loads, slab thicknesses, hanger sizes and bracket depths. The charts are part of the Department's ongoing efforts to standardize overhang falsework designs to reduce submittals and to give contractors an idea as to what designs are acceptable. Mr. Chao stated that once the design charts were completed for the overhang brackets, he would start developing similar charts for temporary strut spacing in the interior bay.

The overall reception of the Department's efforts was very positive. The committee agreed that these efforts should reduce the contractor's uncertainty of what falsework designs will be approved. Mr. Perfetti stated that the department would like to encourage the use of reusable temporary steel angle diaphragms, and asked the AGC members if they would prefer the charts for temporary struts to address both 4"x 4" timber struts and reusable steel diaphragms. The AGC members stated that they would prefer the charts to be developed for reusable steel diaphragms, and expressed a preference for using reusable diaphragms rather than timber struts. Mr. Burns stated that the timber struts are difficult to reuse and often deteriorate between uses.

Mr. Perfetti stated that the department is also working with the PCI committee to standardize overhang inserts and spacings, and is looking at possibly detailing permanent intermediate steel diaphragms on concrete girder bridges.

Mr. Long stated that they often use 4"x 4" floor joists in the overhang falsework walkway and requested that the charts be developed to allow the use of both 4"x 4" joists and 2"x 4" joists. Mr. Chao said he would look into the feasibility of doing this.

Mr. Hancock stated that once the design charts are developed, he would like to use them on a pilot project before implementing them on all new projects.

3. *CSX Railroad Issues*

Mr. Perfetti stated that CSX is still insisting that any crane used on their property be rated for 150% of the design load, and that he had not been able to get an answer as to whether the crane's built-in factor of safety could be counted toward the additional 50% rating. Mr. Burns provided New York DOT's specification which contained specific verbiage that allows the crane's inherent factor of safety to be counted. After some discussion, Mr. Perfetti stated that NCDOT's approach should be to change the special provision to expressly state that the crane's built-in factor of safety was included in the computations for the crane rating, and to reference this fact in future agreement transmittal letters. Hopefully, this will encourage CSX to rule on whether this will be acceptable.

Mr. Hancock stated that in the meantime, a note pointing out the 150% requirement should be placed on the plans so the Contractor can include the additional expense in his bid. He also stated that if a Contractor needs a railroad crossing and it is not provided in the plans, it needs to be coordinated as early in the process as possible with the department and the railroad.

Mr. Raynor said a railroad coordination link will be placed on Structure Design website. The site will include the railroads' specifications and Project Special Provisions along with contact numbers for railroad personnel. To view this information, go to the following link:

<http://www.doh.dot.state.nc.us/preconstruct/highway/structur/RAILROAD/RAILROAD.htm>

Mr. Hancock stated that CSX clarified their previously stated concern regarding moving crane picks. Single crane or two crane moving picks appear to be acceptable.

Mr. Raynor cautioned the AGC members that due to past problems, there will be increased scrutiny from the railroad companies on all aspects of construction at rail sites. This will include proper maintenance and placement of filter fabric and silt fences.

4. *Integral Bridge Details*

Mr. Koch distributed proposed integral bridge details for comments. Most of the comments concerned the approach slab and sleeper slab details. Mr. Hancock stated that he would prefer to see the evazote joint seal at the riding surface rather than below the 2½" asphalt overlay on flexible pavements. Other comments included a request to make the reinforcing steel tying the approach slab to the substructure straight at one end to facilitate form placement., and a request to place a construction joint in the sleeper slab to allow the top half of the sleeper slab to poured with the approach slab.

Conversation about the sleeper slab details with flexible pavements lead to a general discussion of the efficacy of the asphalt overlay on approach slabs with flexible pavement. Mr. Hancock stated that with improved bridge approach fill details, there may no longer be a need to require the asphalt overlay on approach slabs. One suggestion was to require the asphalt overlay only on structures that require long waiting periods on their approach fills. After some discussion, Mr. Hancock stated that he would ask Division Construction Engineers how often they are placing asphalt on approach slabs to accommodate the settlement of the approach slab, especially on structures using the new reinforced approach fill details.

5. *Other*

i. Value Engineering proposals

Mr. Hancock stated that he has recently received some VE proposals where the contractor has proposed revising the length of the detour bridge and the amount of earthwork used in the detour. Since the Project Special Provisions only provide a minimum length and vertical clearance for the detour bridge, he feels the Contractor's bid should already include their plans for the detour. Mr. Hancock suggested that the PSP be reworded to preclude changing the parameters of the detour bridge for a VEP, and stated that the Department would not accept future VEP requests for this situation .

ii. Next Meeting

The next meeting is scheduled for April 9th at 10:00 a.m. in the Structure Design Unit Conference Room C.